

WHAT IS CLAIMED IS:

1. A thermally-conductive epoxy resin molded article
obtained by curing an epoxy resin composition containing an
5 epoxy resin, wherein a degree of orientation α of the epoxy
resin is equal to or larger than 0.5 and smaller than 1.0,
the degree of orientation α being determined by the
following equation:

$$\text{degree of orientation } \alpha = (180 - \Delta\beta)/180 \dots (1)$$

10 wherein $\Delta\beta$ represents a half-width of a peak in an intensity
distribution measured by fixing to a peak scattering angle
in an x-ray diffraction measurement and then changing an
azimuth angle from 0 degree to 360 degrees.

15 2. A thermally-conductive epoxy resin molded article
according to claim 1, wherein the epoxy resin is a liquid
crystalline epoxy resin having at least one mesogenic group
in respective molecules thereof.

20 3. A thermally-conductive epoxy resin molded article
according to claim 2, wherein the thermally-conductive epoxy
resin molded article is a sheet, and wherein a coefficient
of thermal conductivity λ in a direction of thickness is
from 0.5 to 30 W/(m·K).

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4. A thermally-conductive epoxy resin molded article
according to claim 1, wherein a range of the degree of
orientation α is controlled by applying a magnetic field to
the epoxy resin.

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5. A thermally-conductive epoxy resin molded article
according to claim 1, wherein the epoxy resin composition is
mixed with a curing agent.

6. A thermally-conductive epoxy resin molded article according to claim 5, wherein the curing agent is selected from the group consisting of an amine-based curing agent, an acid anhydride-based curing agent, an phenol-based curing agent, a polymercaptan-based curing agent, a polyaminoamide-based curing agent, an isocyanate-based curing agent, and a blockisocyanate-based curing agent.

7. A thermally-conductive epoxy resin molded article according to claim 1, wherein the epoxy resin composition is mixed with a thermally-conductive filler.

8. A method of manufacturing an epoxy resin molded article, wherein a degree of orientation α of the epoxy resin is equal to or larger than 0.5 and smaller than 1.0, the degree of orientation α being determined by the following equation:

$$\text{degree of orientation } \alpha = (180 - \Delta\beta)/180 \dots (1)$$

wherein $\Delta\beta$ represents a half-width of a peak in an intensity distribution measured by fixing to a peak scattering angle in an x-ray diffraction measurement, and then changing an azimuth angle from 0 degree to 360 degrees, the method comprising steps of:

providing an epoxy resin composition containing an epoxy resin; and

curing the epoxy resin composition while applying a magnetic field to the epoxy resin composition in a fixed direction.

9. A method according to claim 8, further comprising the step of adding a curing agent that reacts with the epoxy resin to cure the epoxy resin before applying the magnetic field.

10. A method according to claim 8, wherein the step of curing the epoxy resin comprises heating the epoxy resin composition.

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11. A method according to claim 10, wherein the step of curing the epoxy resin comprises heating the epoxy resin composition to a temperature at which the liquid crystalline epoxy resin exhibits a state of mesomorphism.

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12. A method according to claim 8, further comprising the step of adding a thermally-conductive filler to the epoxy resin composition.